VOLUME CONTENTS

1993 VOLUME 38 NUMBER 1

Molecular Biophysics

K. M. L'vov and A. A. Iskakov — 3 — Mechanism of decay of free-radical states in proteins

S. V. Bespalova and K. B. Tolpigo — 7 — Time of rupture of the hydrogen bond under load

I. B. Grishina, A. A. Makarov, D. V. Kuznetsov, D. G. Vasil'ev, A. G. Pavlovskii, F. Eisenmenger and N. G. Yesipova — 17 — Ion-pairs in the structure of ribonuclease of *Bacillus intermedius* 7P

Ye. L. Lozovskaya and I. I. Sapezhinskii — 25 — Comparative efficacy of some medicinal preparations as superoxide-radical acceptors

V. N. Uverskii, G. V. Semisotnov and O. B. Ptitsyn — 31 — Unfolding of the molten globule by strong denaturants follows the "all-or-none" principle

S. A. Potekhin — 41 — A generalized model of the transitions between two states: convenient apparatus for analysing the form of the melting curves

V. Ye. Bychkova and O. B. Ptitsyn — 51 — The molten globule state of protein molecules is becoming the rule rather than the exception

D. A. Dolgikh, A. E. Gabrielyan, Ye. V. Navolotskaya, V. V. Chemeris and M. P. Kirpichnikov — 59 — Artificial protein with a set spatial structure and biological activity

A. Yu. Grosberg, Y. Rabin, S. Havlin and A. Neer — 67 — Self-similarity in the DNA structure: why are introns necessary?

A. M. Gutin and O. V. Galzitskaya — 77 — Helix–coil transition in an elementary model of large natural RNA—I. Allowance only for native helices

A. M. Gutin and O. V. Galzitskaya — 85 — Helix–coil transition in an elementary model of large natural RNA—II. Allowance for unspecific interactions

Y. Magarshak, C. Benham, J. Malinsky and L. A. Blyumenfel'd — 91 — Dynamics of the secondary structure of RNA and the symmetry of genetic vectors

V. A. Krajewski, D. Yu. Krylov, S. V. Rasin and V. S. Mikhailov — 101 — Analysis of the conformational mobility of DNA in transcriptionally active chromatin

G. R. Ivanitskii, A. A. Khusainov and A. A. Deyev — 111 — From disorder to orderliness as exemplified by the functioning of the phage T4 baseplate

Cell Biophysics

A. L. Blyumenfel'd — 123 — Parametric resonance as a possible mechanism of the action of ultralow concentrations of biologically active substances at cell and subcellular levels

A. A. Demidov and A. Yu. Borisov — 127 — Numerical modelling of energy migration in C-phycocyanin of the blue-green alga *Agmenellum quadruplicatum*

V. L. Sizonenko — 137 — Far electrostatic interactions of particles in the cytoplasm

N. V. Verkhovtseva and I. N. Glebova — 143 — Aspects of accumulation of iron by bacteria as shown by magnetic measurements

Ye. V. Shevchenko, Ye. Yu. Smirnova, A. V. Frolov, Ye. V. Yakovenko and V. F. Antonov — 147 — Formation of stable cupola-shaped bilayer lipid membranes with mobile Plateau–Gibbs boundary

S. G. Shlykov, F. V. Burdyga, S. N. Marchenko and S. A. Kosterin — 153 — Uterotonic effect of oxytocin and Ca^{2+} transport through the sarcolemma of the myometrium

R. Z. Savirov, N. A. Yul'chibayeva and O. V. Krasil'nikov — 161 — Blocking of latrotoxin channel by cadmium ions

Biophysics of Complex Systems

V. Yu. Urbakh — 165 — More precise estimations of the parameters of an exponential relationship

S. S. Pyatygin and V. A. Opritov — 169 — Influence of the membrane potential on the phasic state of the lipid matrix of the plasmatic membrane of the intact plant cell at physiologically moderate positive temperatures

A. A. Timoshin, V. L. Lakomkin and E. K. Ruuge — 173 — Free-radical centres in isolated rat heart tissue in the normal state, ischaemia and reperfusion

A. M. El'ner — 181 — Postural adjustments to voluntary movements. Electrical activity of the muscles and biomechanics of the human body in the vertical posture

Ye. K. Yes'kov — 187 — Frequency characteristic of the sensitivity of honeybee larvae to electric current

V. M. Makeyev — 189 — Stochastic resonance and its possible role in animate nature

Letters to the Editors

V. A. Karavayev, A. K. Kukushkin and M. K. Solntsev — 197 — Changes in slow induction of fluorescence of bean leaves on switching on and off illumination of plants

N. G. Yesipova, Yu. A. Lazarev, Ye. I. Tiktopulo and F. Eisenhaber — 199 — Experimental evidence in favour of a new interpretation of the role of the imino acids in the thermodynamics of proteins of the collagen type

1993 VOLUME 38 NUMBER 2

Molecular Biophysics

O. V. Kulikov, V. G. Badelin and G. A. Krestov — 203 — Thermodynamic and spectroscopic study of complexing of dipeptides with dimethyl sulphoxide in their aqueous solutions

Ye. T. Rubtsova, V. R. Fogel', D. V. Khudyakov, A. I. Kotel'nikov and G. I. Likhtenshtein — 211 — Influence of the molecular dynamics of a protein medium on the kinetics of intramolecular electron phototransfer

A. I. Kotel'nikov — 217 — Analysis of the experimental data on the electron conductivity of globular proteins

A. A. Bogomolov, A. N. Danilenko and V. P. Yur'ev — 221 — Relationship between the mechanisms of enzymatic hydrolysis of broad bean (*Vicia faba* L.) legumin and RBPC of lucerne (*Medicago sativa* L.) leaves and their structural organization

S. A. Potekhin — 227 — Generalized model of the transitions between two states. Application to analysis of the form of the excess heat capacity curves based on the statistical sum of the system

G. M. Mrevlishvili and G. R. Kakabadze — 239 — Difference in the enthalpies of DNA in the helical and coil states close to 0 K

G. B. Sukhorukhov, V. V. Yerokhin and A. Yu. Tronin — 243 — Preparation and investigation of Langmuir films of nucleic acid and octadecylamine complexes

Cell Biophysics

V. D. Nemirovskii, N. I. Monakhova, V. G. Kostenko and M. A. Trushule — 249 — Structure–properties correlation observed in study of the rate of metabolism of the aldehydes of the furan and benzene series

V. P. Bozhkova, D. A. Voronov and Yu. M. Romanovskii — 253 — Appearance of contraction waves on the surface of fertilized frog egg cells on exposure to inositol triphosphate

L. G. Vinnikova, Ye. M. Belavtseva, V. K. Latov and A. I. Lapshin — 265 — Sorption complexes of the hydrolysis products of caseine with food fibres

A. V. Zhukotskii, N. I. Yakubova, L. A. Nikulina, Yu. N. Korolev and S. M. Zubkova — 273 — Computer analysis of the ultrastructural and functional parameters of rat liver mitochondria

Biophysics of Complex Systems

277 — Fourth Working Meeting: Modelling and Methods of Analysing the Bioelectrical Activity of the Brain

A. N. Radchenko — 279 — Hysteresis properties of excitable membranes—the basis of neuronal memory

A. N. Radchenko — 285 — Optimization of distributed associative memory with random organization

A. N. Radchenko — 291 — Recording, consolidation and reproduction of information in neuronal memory

M. B. Kostyunina — 297 — Method of mapping the intracortical interaction on perception and reproduction of emotions

E. Ye. Dolbakyan and T. A. Tarakanova — 301 — Interneuronal functional connections in the sensomotor cortex of dogs

M. A. Kulikov — 307 — Use of methods of non-linear dynamics for identifying and describing the chaotic deterministic EEG component

T. M. Yefremova, M. A. Kulikov and I. R. Rezvova — 313 — Analysis of the non-linear dynamic states of the brain at its different levels of activation (investigations in the high-frequency range of the rabbit EEG)

A. N. Pokrovskii — 319 — Averaged impulse activity in a neuronal net model

S. G. Dan'ko	325	Investigations of the spatial relationship of various electrical processes of the human brain on simultaneous recording
T. V. Aleinikova, N. A. Koshlykova and T. V. Mel'kovskaya	333	Space–time coding by the neurones of the frog brain of simultaneously incoming information on some signs of the visual signal
M. N. Tsitseroshin and A. A. Pogosyan	339	Manifestation of the activity of the integrative mechanisms of the brain in its bioelectrical activity
A. S. Batuyev and V. P. Babmindra	347	Modular organization of the cerebral cortex
M. N. Zhadin	353	Possible mechanism of the action of biogenic amines on the activity of cortical neurones
A. F. Khizhun and Yu. V. Saiko	359	Unified autocorrelation method of analysing electroencephalograms and some results of its application
A. G. Pakhomov	365	Non-thermal effect of microwaves on the function of nerve fibres
A. N. Volobuyev, B. N. Zhukov, A. U. Bakhito, Ye. L. Ovchinnikov and L. A. Trufanov	371	Influence of the constant magnetic field and laser radiation on neurophysiological processes
L. I. Berezhinskii, N. Ya. Gridina, G. I. Dovbeshko, M. P. Lisitsa and G. S. Litvinov	377	Visualization of the effect of millimetre radiation on blood plasma

1993 VOLUME 38 NUMBER 3

Molecular Biophysics

A. N. Osipov, E. Sh. Yakutova and Yu. A. Vladimirov	383	Formation of hydroxyl radicals on interaction of hypochlorite with ferrous ions
M. A. Asanov	389	Dependence of spontaneous chemiluminescence and the spectral characteristics of oleic acid on the partial oxygen pressure and temperature
S. N. Krylov, S. M. Krylova and L. B. Rubin	399	Threshold effect during inhibition by caffeic acid of peroxidase-catalysed oxidation of indolyl-3-acetic acid
K. M. L'vov and A. A. Iskakov	405	Recombination-kinetic investigations of free-radical reactions in proteins
L. V. Chasovnikova, V. Ye. Formazyuk and V. I. Sergiyenko	411	Evaluation of the conformational stability of different classes of human lens crystallins by the monomolecular layer method
M. N. Kiseleva and N. Ya. Dodonova	417	Luminescence of nucleohistone excitable in the spectral region 120–350 nm

Cell Biophysics

Ye. L. Iseyeva, V. M. Panin and A. K. Kukushkin	425	Role of relaxations in the primary processes of charge separation of photosystem II: theoretical model
O. A. Kudryavtseva, S. I. Bartsev, V. A. Okhonin and V. V. Mezhevikin	433	Localization of the luminescent system of luminous bacteria
G. V. Lebedeva, Ye. V. Gel'fand, G. Yu. Riznichenko and V. B. Turovetskii	439	Fluctuations in intracellular pH and the character of its distribution in a population of immunocompetent cells
A. A. Katayev, A. A. Aleksandrov, L. I. Tikhonova and G. N. Berestovskii	445	Frequency-dependent influence of millimetre electromagnetic waves on the ionic currents of the alga *Nitellopsis*. Non-thermal effects

Biophysics of Complex Systems

G. T. Guriya, A. B. Kiyatkin and S. C. Müller	461	Splitting of the autowave in the Belousov–Zhabotinskii chemical system
I. I. Manyanin	467	Effectiveness of synaptic excitation of the nerve cell as a function of its duration
Yu. Z. Saakyan, A. V. Rossokhin and L. Ye. Tsitolovskii	471	Mathematical model of the plasticity of the neurone
N. A. Karnaukhova and L. A. Sergiyevich	477	Influence of the state of blood cells on cytochemical reactions
A. A. Timoshin, V. L. Lakomkin and E. K. Ruuge	483	Redox conversions of spin probes on interaction with the isolated myocardium in conditions of ischaemia and reperfusion
M. M. Pogorel'skii	487	Mechanism of the generation of force in the muscle
M. Yu. Vyaznikova, V. P. Denisov, S. S. Nikolayeva and Yu. M. Petrusevich	493	Spectra of proton magnetic resonance of bound water in the muscle
A. V. Anisimov and N. R. Dautova	501	Self-diffusion of water sorbed by cotton fibre. Investigation by pulsed nuclear magnetic resonance

V. F. Semenkov, V. K. Belyakov, V. F. Labrov and G. V. Tupikin — 505 — Influence of low intensity laser radiation of different wavelengths on the bone marrow precursors of immunopoiesis

V. V. Shlygin, L. N. Arnautov and G. V. Maksimov — 509 — Possible mechanism of treating retinal dystrophy with an electromagnetic field

N. K. Chemeris and V. G. Safronova — 513 — A weak low-frequency magnetic field induces frequency-dependent fluctuations in the period of contractions of the heart of *Daphnia magna*

N. M. Zakharova, S. I. Alekseyev and M. N. Zhadin — 521 — Effect of ultrahigh frequency radiation on the spontaneous impulse activity of surviving cerebral cortex slices

Letters to the Editors

A. P. Zhukovskii, N. V. Rovnov, L. N. Petrov, S. V. Sorvin and Ye. M. Vuks — 527 — State of protein in microlayering water–organic solvents

V. I. Dreval' — 531 — Effect of D_2O during irradiation of Ca^{2+}-ATPase

V. A. Bogdanov — 533 — Stable precision of motor automatism as a biochemical sign of motor homeostasis

V. A. Bogdanov — 535 — Iso-energetic model of the force action of muscle antagonists

Discussions

A. M. Khazen — 537 — Principle of maximum entropy production and the driving force of progressive biological evolution

567 — Annotations of papers deposited in VINITI

577 — Reviews

1993 VOLUME 38 NUMBER 4

Molecular Biophysics

A. V. Umrikhina and A. A. Krasnovskii ✠ — 581 — Light-induced electron paramagnetic resonance signals in solid NAD·H and NADP·H preparations

K. M. L'vov, S. V. Kuznetsov and A. P. Kostikov — 585 — Reversible decline in the intensity of phosphorescence of tryptophan on exposure to light in the triplet absorption region at 77 K

K. M. L'vov, S. V. Kuznetsov and A. P. Kostikov — 591 — Kinetic model of the effect of reversible reduction in the population of the triplet state of tryptophan on exposure to light

V. G. Artyukhov and G. A. Vashanov — 597 — Serotonin as photoprotector of the oxygen-transport function of haemoglobin

G. M. Mrevlishvili, Ye. G. Kamushadze and D. A. Tatishvili — 601 — Manifestation of the fractal properties of globular proteins at low temperatures

S. P. Rozhkov and A. G. Bortisova — 607 — Salt-induced phase transition of the critical type in a water–protein matrix of serum albumin molecules

O. S. Klyachko, Ye. S. Polosukhina and N. D. Ozernyuk — 613 — Temperature causes structural and functional changes in lactic dehydrogenase of fish skeletal muscles

V. N. Uverskii, V. V. Leont'ev and A. T. Gudkov — 619 — Effect of point amino acid replacements on the stability of phage T4 lysozyme—I. Asn101 → Asp replacement

V. V. Leont'ev, V. N. Uverskii, O. I. Gryaznova and A. T. Gudkov — 623 — Effect of point amino acid replacements on the stability of phage T4 lysozyme—II. Transition of the protein molecule to the "molten globule" state for the replacements Asp10 → His, Asn101 → Asp and Arg148 → Ser

B. B. Fedorov and B. A. Fedorov — 629 — Influence of fixed water molecules on the fractal properties of the surfaces of globular proteins

A. V. Belousov, V. A. Kovarskii, Ye. T. Merlin and B. S. Yastrevov — 637 — Enzymatic reaction in an external electromagnetic field

A. N. Veselkov, D. Davies, L. N. Djimant and H. Parkes — 645 — One-dimensional and two-dimensional ^1H NMR spectroscopic study of the self-association of deoxytetraribonucleoside triphosphates d(ApGpCpT) in aqueous solution

M. M. Montrel', L. I. Shabarchina, T. V. Pletneva and Yu. A. Yershov — 655 — Infrared spectroscopic study of the interaction of chromium salts with natural DNA

Cell Biophysics

V. V. Gavrilov, S. V. Konev, T. A. Orekhova and A. Ya. Gorilenko — 663 — Prevention of binding of Nile red to hydrophobic proteins and by the surface of a cuvette using a detergent

S. G. Samoilenko, G. V. Kaler, S. L. Aksentsev and S. V. Konev — 669 — Influence of temperature on the distribution of pyrene in phosphatidyl choline liposomes

Yu. K. Tovbin and N. F. Vasyutkin — 675 — Energetics of the interaction and migration of cations in protein channels

A. V. Melkikh and V. D. Seleznev — 683 — Conformational mechanism of energy conversion in the course of active ion transport in the biomembrane

G. Yu. Riznichenko, T. Yu. Plusnina, T. N. Vorob'eva, S. I. Aksenov and G. M. Tcherniakov — 689 — Model of the response of the membrane transport system to a variable electric field

S. P. Yarkov, S. I. Tret'yakov and V. N. Zlobin — 695 — Change in the permeability of phospholipid liposome membranes on exposure to preparations of the δ-endotoxins of *Bacillus thuringiensis*

K. A. Bagramyan and A. A. Trchunyan — 701 — $H^+ - K^+$ exchange and the formation of H_2 in *E.coli* mutants with defects in respect of the $H^+ - ATPase$ complex and potassium transport

R. S. Nasibullin, V. S. Sultanov, G. N. Zagitov and M. Kh. Zeleyev — 707 — Effect of pyrazole on the conformational state of cell membrane phospholipids

V. I. Zagnoiko, O. A. Nardid, O. G. Kuleshova, A. K. Gulevskii and V. A. Moiseyev — 711 — Permeability of the membranes of the erythrocytes of *Citellus undulatus* in conditions of hypothermal storage

B. S. Balmukhanov and A. T. Basenova — 717 — Influence of non-equilibrium states of the near-membrane layer of an electrolyte on the flow of dilute cell suspensions

G. P. Gorbenko, V. D. Krupin and V. V. Tovstyak — 723 — Influence of radiation on the structural state of erythrocyte membranes

Biophysics of Complex Systems

A. Yu. Sokolov, A. K. Anosov and D. I. Roshchupkin — 727 — Role of photomodifications prevented by inhibitors of lipid peroxidation in the therapeutic action of u.v.-irradiated blood in peritonitis in rats

A. V. Kozlov, A. Yu. Meschanov, I. G. Nikolayeva, G. N. Kol'tsova and Yu. A. Vladimirov — 733 — Comparative study of the anti-oxidative properties of polyhydroxamic acids, desferal and other iron chelators

Ye. N. Artem'eva and V. V. Smolyaninov — 739 — Features of the kinematics of walking in early human ontogenesis

B. I. Prilutskii, V. M. Zatsiorskii and L. N. Petrova — 745 — The "tendon" action of two-joint muscles during human locomotions: transmission of mechanical energy between links in the amortization and repulsion phases

A. Yu. Grosberg and N. V. Khrustova — 751 — Collective properties of a system of mutually learning neuronal nets in the information field

1993 VOLUME 38 NUMBER 5

Molecular Biophysics

K. M. L'vov, S. V. Kuznetsov, S. B. Bibikov and A. P. Kostikov — 761 — Population of triplet-excited states of tryptophanyls and tyrosyls in proteins

M. V. Vok, A. R. Zaritskii and A. G. Plotnikov — 767 — Effect of an inhibitor on the pH-dependence of the rate of the one-enzyme reaction

A. F. Vanin — 773 — Interconversion of two possible forms of the endothelium-derived vessel relaxing factor—S-nitrosocysteine and the dinitrosyl iron complex with cysteine

A. N. Gorban', Ye. M. Mirkes, T. G. Popova and M. G. Sadovskii — 783 — A new approach to the study of the statistical properties of gene sequences

V. Ya. Maleyev, M. A. Semenov, A. I. Gasan and V. A. Kashpur — 789 — Physical properties of the DNA – water system

Cell Biophysics

R. M. Sevdimaliyev, V. M. Voznyak and V. G. Ladygin — 813 — Magnetosensitive stage of electron transfer in the primary reactions of photosystem II of *Chlamydomonas reinhardii* mutants

Ye. V. Popov and Ye. V. Kononenko — 821 — Modification by magnesium of the membrane lipid matrix

G. V. Maksimov and S. N. Orlov — 827 — Effect of the volume of human and rat erythrocytes on the structure of haemoglobin protoporphyrin

F. I. Ataullakhanov, V. M. Vitvitskii, A. B. Kiyatkin and A. V. Pichugin — 833 — Regulation of the volume of human erythrocytes. Role of calcium-activated potassium channels

I. V. KROPACHEVA	845	Turbidity of myofibril suspensions
		Biophysics of Complex Systems
N. N. KIZILOVA	849	Aggregation and sedimentation of erythrocytes in a magnetic field
V. V. TEVDORADZE, K. SH. NADAREISHVILI, M. SH. GEDEVANISHVILI and I. SH. KVAVILASHVILI	857	Potential of the blastocoele of the early frog embryo
V. YE. ZAIKA	861	Thermal dependence of processes at organism level in poikilotherms
YE. S. LOSEV	867	Mathematical modelling of thermoregulation on local hyperthermia
T. R. MOSHONKINA	873	Analysis of the parameters of the electrostatic field appearing on electrical stimulation of the cat visual cortex
S. A. LOGVENKOV	879	A model of plant root tissue
S. A. LOGVENKOV	885	Mechanism of differentiation of plant root cells
S. A. LOGVENKOV	889	The guttation mechanism in plants
A. B. AVAKYAN	895	A new biophysical method of clone selection of virus-free seed potato
A. B. AVAKYAN	899	Influence of frosts on the delayed fluorescence of the leaves of plants grown in field conditions
A. P. LEVICH, V. L. ALEKSEYEV and S. YU. RYBAKOVA	903	Optimization of the structure of ecological communities: model analysis
		Letters to the Editors
Y. MAGARSHAK	913	Double transpositions and the secondary structures of RNA
S. A. GONYAN, S. G. TIRATSUNYAN and P. O. VARDEVANYAN	915	Surface charge of isolated nuclei of hepatocytes with change in their functional activity
V. N. BURAVTSEV and A. V. GUREVICH	917	Evaluation of the distribution of the electric potential on electric breakdown of bilayer lipid membranes
V. I. DREVAL'	921	Photoreactivation of Ca^{2+}-ATPase and Mg^{2+}-ATPase after exposure to ionizing radiation
I. D. KOLESIN	925	Mathematical model of a self-regulated parasitic system
	929	Reviews

1993 VOLUME 38 NUMBER 6

	931	In memory of Academician A. A. Krasnovskii
A. A. KRASNOVSKII ✤	935	Pathways of photosynthesis, excited chlorophyll and related problems
F. F. LITVIN, O. B. BELYAYEVA and N. V. IGNATOV	949	Mechanism of the final stages of biosynthesis of chlorophyll and pheophytin and the problem of the biogenesis of the reaction centres of photosystem II
V. A. SHUVALOV	969	Study of electron transfer in the reaction centres of photosynthesis using femto- and picosecond spectroscopy and hole burning at 1.7 K
R. M. SEVDIMALIYEV, YE. I. YELFIMOV, V. M. VOZNYAK and A. A. MOSKALENKO	981	Magnetosensitive stages of electron transfer in the isolated reaction centres of photosystem II of higher plants
V. A. KARAVAYEV and A. K. KUKUSHKIN	987	Theoretical model of light and dark processes of photosynthesis: problem of regulation
M. G. GOL'DFEL'D, I. I. LOBYSHEVA, V. D. MIKOYAN, D. S. CHERNAVSKII and A. V. ONUFRIYEV	1005	ATP synthesis by free and membrane-bound H^+-ATPase of the chloroplasts in conditions of a pH shift
A. A. KONONENKO, YE. P. DUKASHEV, D. S. BROUN, S. K. CHAMOROVSKII, B. A. KRUMING and S. A. YAKUSHEV	1025	Model devices based on bacteriorhodopsin prototypes of positional-sensitive detectors
O. D. BEKASOVA	1031	Biochemistry of the phycobilisomes
Z. A. LUKA and I. D. VOLOTOVSKII	1053	Modelling the structure of phytochrome
YE. A. VENEDIKTOV and YU. V. TITOVA	1059	Mechanism of quenching of luminescence of singlet molecular oxygen by the pyrrols

V. Ya. Shafirovich, Ye. Ye. Batova and P. P. Levin — 1063 — Triplet ion-radical state of the Zn-porphyrin–viologen diad as a magnetosensitive probe for investigating the dynamics of lipid bilayers

V. N. Bolodon and Ye. A. Chernitskii — 1069 — The problem of the two-hit mechanism of photosensitized cell damage

S. V. Konev, A. N. Rudenok and L. M. Vybiranets — 1073 — Membrane control of the reaction of photodeblocking of cytochrome oxidase in the electron transport chain of the mitochondria

Ye. S. Dremina, V. S. Sharov and Yu. A. Vladimirov — 1077 — Use of the kinetics of Fe^{2+}-induced chemiluminescence in a *Tris*-buffer suspension of liposomes for investigating the antioxidant activity of blood plasma

D. I. Roshchupkin and M. A. Murina — 1083 — Photobiological processes in biomembranes on exposure of animal cells, tissues and organs to ultraviolet radiation

I. I. Gitel'zon, M. I. Gladyshev, A. G. Degermendzhi, L. A. Levin and F. Ya. Sid'ko ✠ — 1099 — Ecological biophysics and its role in study of aquatic ecosystems

V. R. Fogel', A. P. Sadkov and G. I. Likhtenshtein — 1109 — Phycoerythrin-dye complex as photosensitizer in the reaction of reduction of methylviologen by NAD·H

N. G. Averina, A. B. Rudoi and L. I. Fradkin — 1113 — Centres of biosynthesis of chlorophyll. Current ideas

V. A. Tverdislov — 1117 — Non-equilibrium ocean–atmosphere interface as a site of the advent of protocells. Separation of ions

D. Zhamyansuren, B. Burgedbazar, D. Selenghe, J. Zhamyansan, Ye. L. Lozovskaya and I. I. Sapezhinskii — 1123 — Antiradical action of the alkaloids of the plant *Ammopipthantus mongolicus* (Maxim) Cheng on photo-oxidation of glycyltryptophan

G. N. Zatsepina, T. V. Vengrus and N. N. Goryunov — 1127 — Membrane potentials and the adaptational powers of lymphocytes and erythrocytes in different states of the vital activity of the mammal

i — Volume Contents/Author Index for Volume 38, 1993